

Calcola i limiti

1. $\lim_{x \rightarrow -1} \sqrt{2x+6} - x$
2. $\lim_{x \rightarrow e} 3 - \log x$
3. $\lim_{x \rightarrow \infty} \frac{e^{-x}}{x^2+2x}$
4. $\lim_{x \rightarrow \infty} e^{x+1} - e^{4x}$
5. $\lim_{x \rightarrow 0^+} \frac{2}{\tan x} - \frac{1}{\tan x}$
6. $\lim_{x \rightarrow -\infty} \frac{2x^2+x+4x^3}{x^5-x}$
7. $\lim_{x \rightarrow -\infty} \frac{2x^5-x^3+x^4}{x^5-6x^2}$
8. $\lim_{x \rightarrow \infty} e^{\frac{-x^3+1}{x^2-1}}$
9. $\lim_{x \rightarrow \frac{\pi}{2}} (1 - \operatorname{sen} x) \tan x$
10. $\lim_{x \rightarrow \infty} x^{\frac{1}{\log x}}$
11. $\lim_{x \rightarrow 0} \frac{x}{\operatorname{sen} x}$
12. $\lim_{x \rightarrow 0} \frac{1-\sqrt{\cos x}}{x}$
13. $\lim_{x \rightarrow 0} \frac{2x \cdot \operatorname{sen} x}{\cos^2 x - \cos x}$
14. $\lim_{x \rightarrow 0} \frac{\operatorname{sen} x - \tan x}{6x^3}$
15. $\lim_{x \rightarrow 0^+} [\log(\tan x) - \log(2x)]$
16. $\lim_{x \rightarrow 0^-} e^{\frac{\operatorname{sen} x}{1-\cos x}}$
17. $\lim_{x \rightarrow \frac{3\pi}{2}} \frac{\cos x}{2x-3\pi}$
18. $\lim_{x \rightarrow \infty} \left(\frac{5+x}{x}\right)^x$
19. $\lim_{x \rightarrow \infty} \left(1 + \frac{1}{4x}\right)^x$
20. $\lim_{x \rightarrow \infty} \left(x \cdot \log\left(\frac{x+2}{x}\right)\right)$
21. $\lim_{x \rightarrow 0} \frac{(1+4x^2)^3 - 1}{x^2}$
22. $\lim_{x \rightarrow \infty} \left(\frac{3x-1}{3x+2}\right)^{\frac{x}{2}}$
23. $\lim_{x \rightarrow \frac{\pi}{2}} (1 - \cos x)^{\tan x}$

Date le seguenti funzioni, individua e classifica i loro punti di discontinuità

- 1) $f(x) = \frac{x+3}{|x^2-9|}$
- 2) $f(x) = \frac{x+1}{|x+1|} + \frac{2}{x}$
- 3) $f(x) = \frac{\operatorname{sen} x}{\operatorname{sen} 2x}$